

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: Drewniok et al.

Serial No.:

Group Art Unit:

Filed: Herewith

Examiner:

For: METHOD OF SEALING PLUG-IN CONNECTION ELEMENTS
OF ELECTRICAL LINE SYSTEMS WHEN FOAMING THEM
IN PLACE IN COMPONENTS, AND DEVICES TO BE USED
FOR THIS METHOD

PRELIMINARY AMENDMENT

Assistant Commissioner for Patents
Washington, D.C. 20231

Dear Sir:

Please amend the accompanying patent application as follows:

IN THE SPECIFICATION:

Page 1, delete lines 1-5.

Page 1, after line 10, insert,

--RELATED APPLICATIONS

This patent application claims priority to German Patent Application No. 199 61
233.1 filed December 18, 1999.

BACKGROUND OF THE INVENTION--

Page 1, delete lines 11-13, and insert therefore:

--The present invention relates to a method and apparatus for sealing plug-in connection elements of electrical line systems, and in particular, the invention relates to a method and apparatus for sealing the plug-in connection elements during a foaming process."

Page 1, after line 27, insert:

--A procedure for the sealing of an electric cable system plug-in connector element to be attached to a component, is generally known in the art from DE 30 48 008 C2, where a jacket is molded and a tapered neck formed. This requires additional operational steps.--

Page 2, after line 1, insert:

--SUMMARY OF THE INVENTION AND ADVANTAGES

The present invention relates to a method of sealing plug-in connection elements of electrical line systems during the foaming in place of such elements that are to be foamed in place in components, in which method the entry point of the electrical lead in to the plug-in connection element is sealed by a closure part under the pressure of the foam to be introduced. The closure part preferably includes an elastically deformable material and has either lips which lie against each other and enclose the lead or a form corresponding to the opening in the plug-in connection element that widens outwards for receiving the lead.

BRIEF DESCRIPTION OF THE DRAWINGS --

Page 2, after line 15, insert:

--Figure 7 shows and embodiment of the closure part with circular cam strips.--

Page 3, line 38, after “intensified” insert --, as shown in Figure 7,--.

IN THE CLAIMS:

Delete claims 1-12.

Please add the following new claims:

13. A method of sealing plug-in connection elements of electrical line systems during the foaming in place of such elements that are to be foamed in place in components, comprising the steps of:

- a) providing a plug-in connection element with an entry point;
- b) arranging an elastically deformable closure part with an electrical lead proximate to the entry point;
- c) forcing the elastically deformable closure part into the entry point of the electrical lead; and
- d) sealing the elastically deformable closure part in the entry point of the electrical lead under the pressure of foam.

14. The method according to claim 13, wherein the closure part has two flexible lip parts which lie against each other and enclose the electrical lead.

15. The method according to claim 13, wherein the closure part comprises a plug which encloses the conductor and tapers conically toward the plug-in connection element.

16. A plug-in connection element which can be foamed in place in components for electrical line systems comprising:

a plug-in connection element having a body with at least one contact for use with an electrical lead of a plug-in connection;

a flexible closure part closing the space between the electrical lead and the body;
and

foam applying pressure to the flexible closure part to seal the flexible closure part against the electrical lead.

17. The connection element according to claim 16, wherein the closure part has two flexible lips which lie against each other and have clearances for an electrical lead to be led through.

18. The connection element according to claim 17, wherein the closure part is formed integrally with the body of the plug-in connection element.

19. The connection element according to claim 17, wherein the closure part is connected to the body of the plug-in connection element by moulding.

20. The connection elements according to claim 17, wherein the closure part is fitted in a sealed manner onto the body of the plug-in connection element.

21. The connection elements according to claim 16, wherein the flexible lips have surface area enlargements near an end of the flexible lips.

22. The connection element according to claim 17, wherein the flexible lips have service area enlargements near an end of the flexible lips.

23. The connection element according to claim 16, wherein an opening in the body of the plug-in connection element tapers outward for receiving a corresponding taper.

24. The connection element according to claim 23, wherein the closure part has a collar on its end opposite the opening.

25. The connection element according to claim 23, wherein the closure part has a plurality of peripheral beads.

26. The connection element according to claim 25, wherein the closure part has a plurality of peripheral beads.

IN THE ABSTRACT:

Line 8, delete “ consists of” and insert therefore --preferably includes--.


REMARKS

The additional text provided by this amendment at page 1, after line 27 was inadvertently omitted from the original English translation. The other amendments to the application are supported by the German Application as originally filed.

Applicant submits that the pending claims in the application are allowable.
Applicant respectfully solicits allowance of these claims.

Respectfully submitted,

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